

81471

Page 1

N900040100

Setup Start *NS1*

Stop *NS2*

Start Date: 3/14/2012 **Start Qty:** 6.00 ***6***

Cust Item ID:

Required Date: 4/6/2012 **Req'd Qty:** 6.00 ***6***

Customer:

Reference:

Date: 12-03-14 Tooling:

Date:

Run Start *NR1*

Date: _____ **SPC (Y/N):** _____

Date:

Stop *NR2*

Draw Nbr	Revision Nbr
D4148	D

0.00

100

Small Fab

Memo

0.00

Small Fab

1- Assemble as per dwg

110

QC5- Inspect part completeness to step on W/O

0.00

110

QC

Memo

0.00

Quality Control

120

Identify as per dwg & Stock Location: 468

0.00

120

Packaging

Memo

0.00

Packaging

Dart Aerospace Ltd

W/O: 81471		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: D4148-1 PAR #: Fault Category: SMZ1 FAB / water jet NCR: Yes No DQA: Date: 12/04/09
 Resolution: SCRAP Disposition: SCRAP QA: N/C Closed ck Date: 12/4/10

NCR: 12-1322		WORK ORDER NON-CONFORMANCE (NCR) 2.13						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
12/04/09	100	Scrap 1 ^{piece of} D4148-1 because are ORF when cut on water-jet R.C process/water jet	S ASZ042	Scrap = destroy replace D4148-1	S 12/04/09	S 12/04/09 ASZ042	S 12/04/09	S 12/04/09

NOTE: Date & initial all entries

Wednesday, March 14, 2012 1:59:03 PM

81471

Page 2

N900040100

Setup Start ***NS1***

Stop ***NS2***

Start Date: 3/14/2012 **Start Qty:** 6.00 ***6***

Cust Item ID:

Required Date: 4/6/2012 **Req'd Qty:** 6.00 ***6***

Customer:

Reference:

Approvals: _____ **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____

Run Start *NR1*

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop *NR2*

**Insp.
Stamp**

0.00

130

QC

Memo

0.00

Quality Control

Qty Qty Number Stamp
12 14/5 78

MF
12-04-09

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Wednesday, March 14, 2012 1:59:02 PM

Page 1

Work Order ID: 81471

Parent Item: D4148-041

Parent Item Name: Crosstube Lug Assembly, Fwd

Start Date: 3/14/2012

Required Date: 4/6/2012

Start Qty: 6.00

Required Qty: 6.00

Comments: IPP Rev:A 10.06.24 new issue DD verf:EC
 IPP Rev:B 10.07.22 as per revB DD verf:JLM
 DD verf:EC IPP Rev:C 10.10.29 as per revC
 IPP REV:D 11.03.02 AS PER DWG REV.D DD VERF:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

MS21043-3		Purchased	No			100	Each	836.0000	4	Sp ¹²			
-----------	--	-----------	----	--	--	-----	------	----------	---	------------------	--	--	--

Nut

Location	Loc Qty	Loc Code
FG	72	
103691	72	
GA	334	
120693	334	
ST301	430	
118077	2	
118614	378	12x
118686	30	
119758	20	

MS21043-4		Purchased	No			100	Each	1,193.0000	1	Sp ¹⁸			
-----------	--	-----------	----	--	--	-----	------	------------	---	------------------	--	--	--

Nut

Location	Loc Qty	Loc Code
FG	40	
104603	40	
ST301	1153	
119546	415	
120308	738	18x

D2690-6		Manufactured	No			100	Each	27.0000	1	Sp ⁶ 12-04-06			
---------	--	--------------	----	--	--	-----	------	---------	---	--------------------------	--	--	--

Lanyard Assembly

Location	Loc Qty	Loc Code
ST016	27	
79515	27	6x

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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NOTE: Date & initial all entries

Picklist Print

Wednesday, March 14, 2012 1:59:03 PM

Page 2

Work Order ID: 81471

Parent Item: D4148-041

Parent Item Name: Crosstube Lug Assembly, Fwd

Start Date: 3/14/2012

Required Date: 4/6/2012

Start Qty: 6.00

Required Qty: 6.00

D3910-1 Manufactured No 100 Each 15.0000
Crosstube Lug

1 B81474 SP.

Location Loc Qty Loc Code

st507 15

78326 15

D4091-1 Manufactured No 100 Each 24.0000
Mounting Lug

1 SP 6

Location Loc Qty Loc Code

ST458 24

81005 24

D4148-1 Manufactured No 100 Each 23.0000
Crosstube Lug Plate, Fwd

2 LA SP 12

Location Loc Qty Loc Code

ST132 23

78331 23

D4148-3 Manufactured No 100 Each 8.0000
Stud Receiver, Lower

1 12X B81478 SP.

Location Loc Qty Loc Code

ST133 8

79055 8

D4148-5 Manufactured No 100 Each 5.0000
Eyebolt Stud

1 B81405 SP

Location Loc Qty Loc Code

ST133 5

78330 5

1204-04

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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NOTE: Date & initial all entries

Picklist Print

Wednesday, March 14, 2012 1:59:03 PM

Page 3

Work Order ID: 81471

Parent Item: D4148-041

Parent Item Name: Crosstube Lug Assembly, Fwd

Start Date: 3/14/2012

Required Date: 4/6/2012

Start Qty: 6.00

Required Qty: 6.00

AN3C12A Purchased No

Bolts

100 Each 324.0000 2

12
m/121259 ~~10/11~~ X.

Location	Loc Qty	Loc Code
GA	50	
120449	50	
ST351	274	
117514	4	
118112	5	
118451	22	
119510	1	
120423	242	

IX.

AN4C13A Purchased No

BOLT

100 Each 130.0000 3

18
SP

Location	Loc Qty	Loc Code
ST357	130	
120187	1	
120423	129	

15A

MS17984-C413 Purchased No

PIN, QUICK RELEASE

100 Each 18.0000 1

6

Location	Loc Qty	Loc Code
ST315	8	
114340	1	
118612	2	
120360	5	
ST333	10	
121011	10	

5A m/121091 SP

MS20615-4M18 Purchased No

Rivet

100 Each 314.0000 8

48

Location	Loc Qty	Loc Code
ST323	314	
118077	150	
118543	164	

48A

Wednesday, March 14, 2012 1:59:03 PM

Shop Packet Print

Page 3

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries -

Picklist Print

Wednesday, March 14, 2012 1:59:03 PM

Page 4

Work Order ID: 81471

Parent Item: D4148-041

Parent Item Name: Crosstube Lug Assembly, Fwd

Start Date: 3/14/2012

Required Date: 4/6/2012

Start Qty: 6.00

Required Qty: 6.00

NAS1149C0332R

Purchased

No

100

Each

3,597.0000

4

Washer

Location

Loc Qty

Loc Code

ST297

3597

118354

551

119736

196

120648

2850

m121255 sp.

NAS1149C0432R

Purchased

No

100

Each

2,618.0000

6

Washer

Location

Loc Qty

Loc Code

ST297

2618

117291

1618

119124

1000

sp 12-01-01.

3lex

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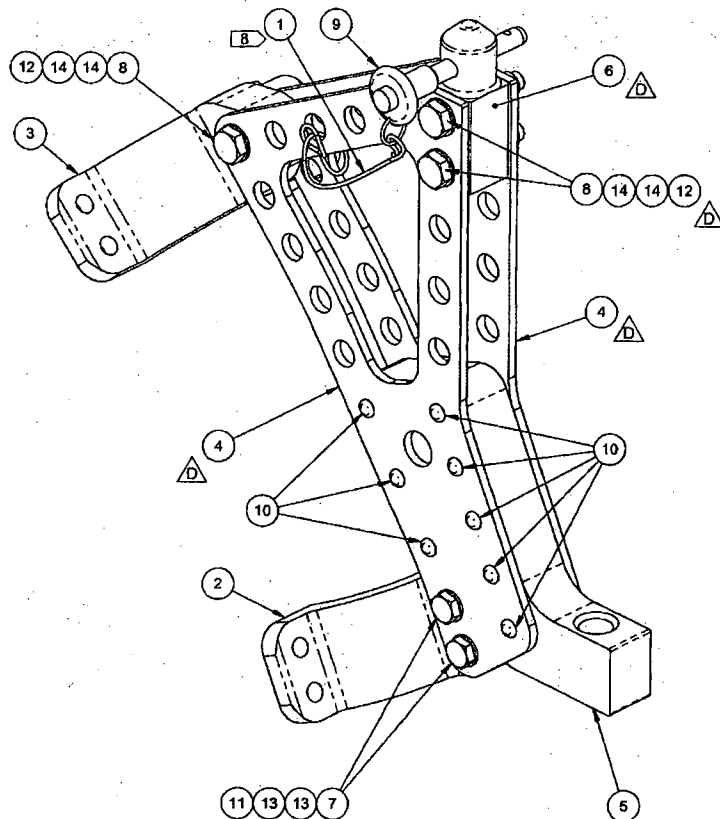
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



D4148-041 FWD X-TUBE LUG ASSY

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D4148-041" PER DART QSI 044 6.1
- 7) WEIGHT: 3.67 lbs
- 8) ATTACH D2690-6 TO D4148-1 BY LOOPING AROUND A LIGHTENING HOLE FIRST AND THEN SECURE TO MS17984-C413

ITEM	QTY	P/N	DESCRIPTION
	X	D4148-041	FWD X-TUBE LUG ASSY
1	1	D2690-6	LANYARD
2	1	D3910-1	X-TUBE LUG
3	1	D4091-1	MOUNTING LUG
4	2	D4148-1	FWD X-TUBE LUG PLATE
5	1	D4148-3	STUD RECEIVER LOWER
6	1	D4148-5	EYEBOLT STUD
7	2	AN3C12A	BOLT
8	3	AN4C13A	BOLT
9	1	MS17984-C413	PIP PIN
10	8	MS20615-4M18	RIVET
11	2	MS21043C3	NUT
12	3	MS21043C4	NUT
13	4	NAS1149C0332R	WASHER
14	6	NAS1149C0432R	WASHER

81471

RELEASED
2011-02-24

D	HOLE DIA CHANGED TO 0.252" (D8-3); HOLE DIA CHANGED TO 0.260" (C8-5); REPLACED QTY(2) AN3C12A, MS21043C3 AND QTY(4) NAS1149C0332R WITH QTY(2) AN4C13A, MS21043C4 AND QTY(4) NAS1149C0432R (D3-1, C4-2)	SC	11.02.22
C	REDESIGNED D4148-1/3 TO ADDRESS COMPATIBILITY ISSUES WITH D350-591 SHORT STEPS	MB	10.10.12
B	REPLACED QTY(3) MS20615-4M18 WITH QTY(2) EACH AN3C12A, MS21043-3 AND QTY(4) NAS1149C0332R WASHER (ZN D3-1, B7-2 & B4-2); MS20615-4M18 WAS MS20615-4M20 (ZN D3-1 & B7-2); Ø0.191 2 PL REPLACES Ø0.129 3 PL (ZN D8-3); Ø0.129 7 FL WAS 10 PL (ZN A7-3); Ø0.191 WAS 0.129 (ZN C8-5); REASON: SEE TR-D350-007-2 REV. B.	MB	10.07.05
A	NEW ISSUE	MB	10.06.18
REV.	DESCRIPTION	BY	DATE
DESIGN	MB	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	SC		
CHECKED		DRAWING NO.	REV. D
MFG. APPR.		D4148	SHEET 1 OF 5
APPROVED		TITLE	SCALE
DE APPR.		FWD X-TUBE LUG ASSY	NTS
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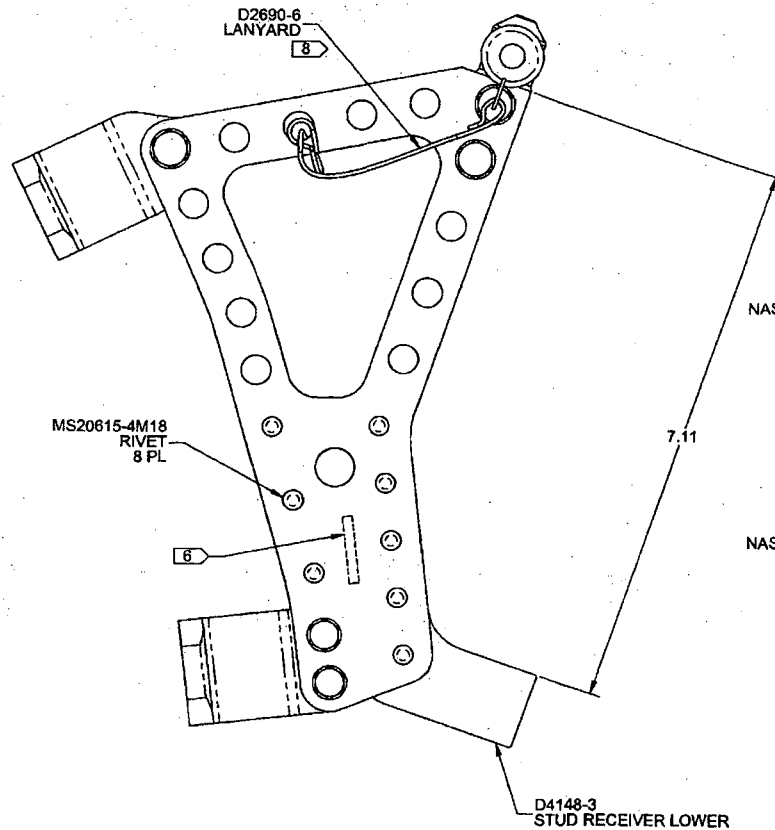
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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

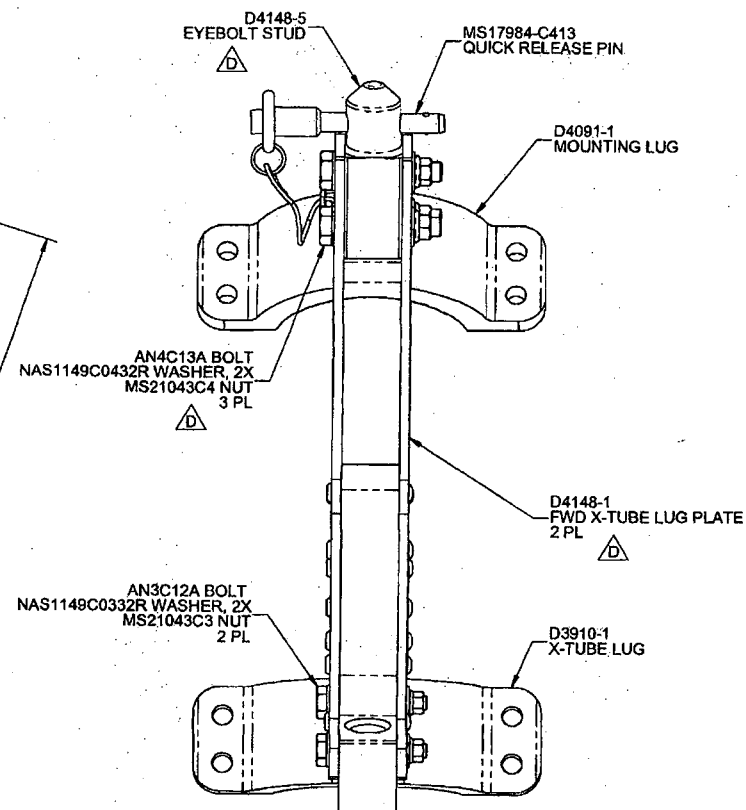
Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



D4148-041 FWD X-TUBE LUG ASSY



#87471

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2011-02-24

DESIGN	MB	DART AEROSPACE LTD	
DRAWN	SC	HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. D
MFG. APPR.		D4148	SHEET 2 OF 5
APPROVED		TITLE	SCALE
DE APPR.		FWD X-TUBE LUG ASSY	NTS
DATE	11.02.22	COPYRIGHT © 2018 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL. IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

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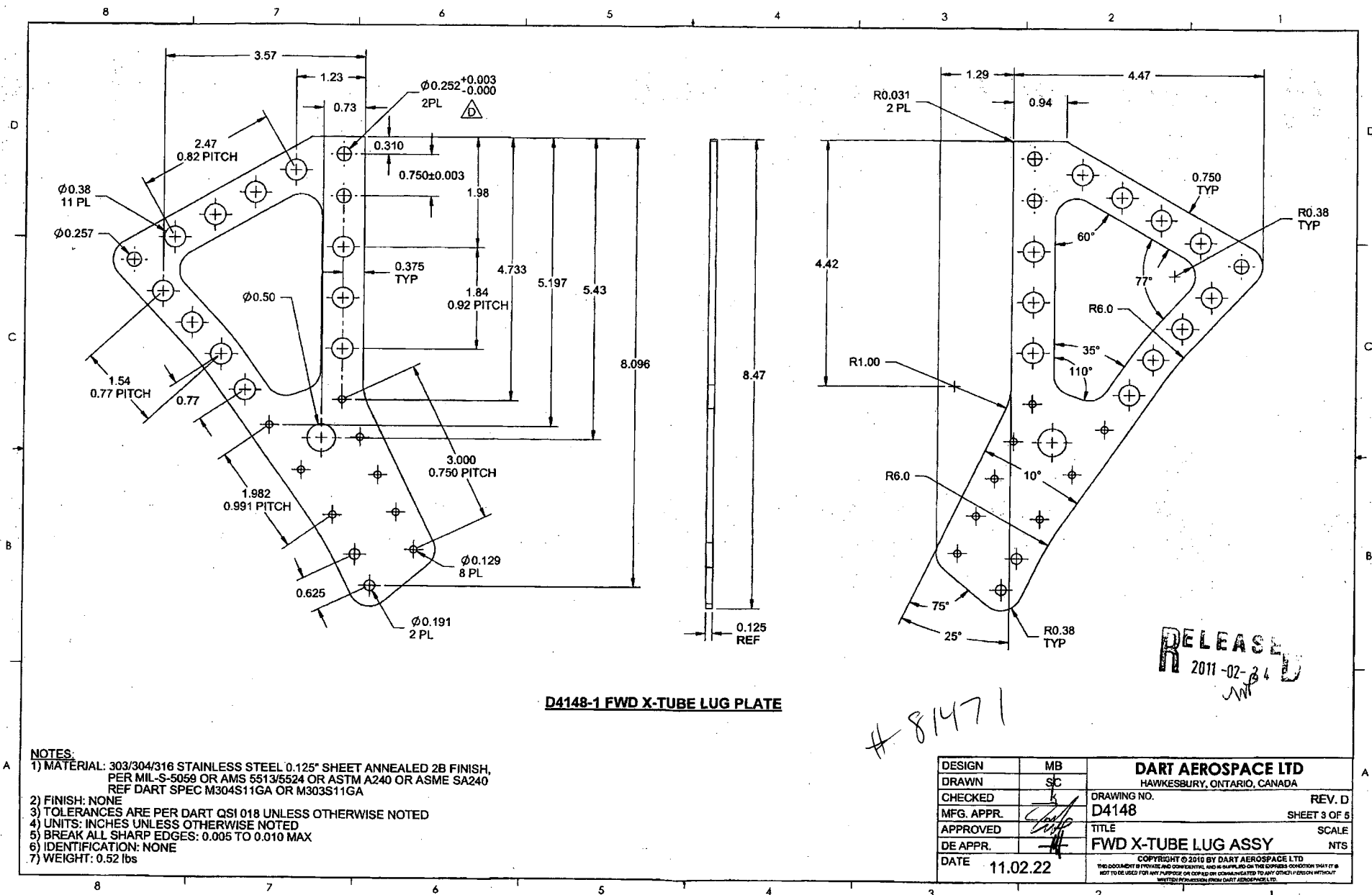
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



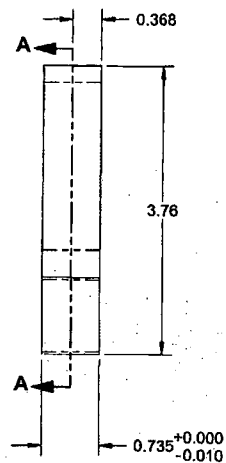
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



Technical drawing of a mechanical part, likely a propeller hub or similar component, showing a cross-section with various dimensions and features.

Key dimensions and features include:


- Overall width: 4.65
- Overall height: 0.89
- Top width: 2.12
- Top radius: R0.38 TYP
- Inner hole diameter: $\phi 0.453^{+0.010}_{-0.000}$
- Inner hole diameter: $\phi 0.250$
- Material: 0.06 X 45° CMF
- Radius: R6.0
- Angle: 9°
- Angle: 6°
- Angle: 65°
- Angle: 90°
- Radius: R0.031 2 PL
- Dimension: 0.80
- Dimension: 0.59
- Dimension: 0.625
- Dimension: 1.97
- Dimension: 2.74
- Dimension: 3.27

Isometric view of a mechanical part. The part has a rectangular base with a semi-circular cutout on the left side. A vertical rectangular section extends from the top of the base. The vertical section has a circular hole on its front face and two small circular holes on its top face. The base has a circular hole on its right end. Hidden edges are indicated by dashed lines.

R0.38
TYP

RELEASED
2011-02-24

7) WEIGHT: 1.52 lbs

DESIGN	MB		DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	SC		DRAWING NO.	REV. I
CHECKED			D4148	SHEET 4 OF 4
MFG. APPR.			TITLE	SCALE
APPROVED			FWD X-TUBE LUG ASSY	NTS
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DATE		11.02.22		

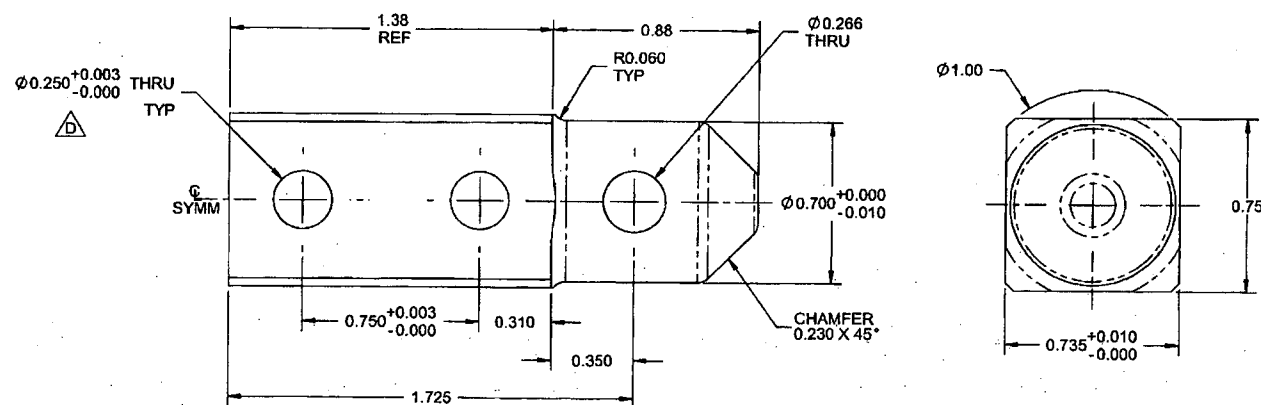
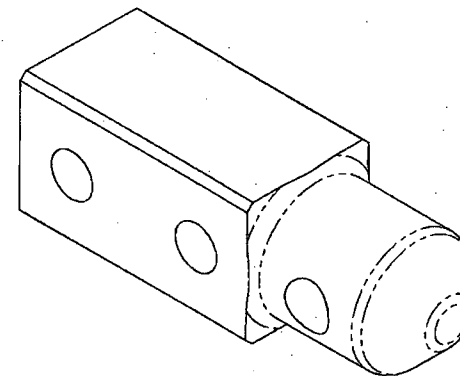
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			





NOTE: Date & initial all entries



D4148-5 EYEBOLT STUD

RELEASED
2011-02-24

- NOTES:**
- 1) MATERIAL: 303/304/316 STAINLESS STEEL BAR PER ASTM A582 OR ASTM A276
REF DART SPEC M304B OR M303B
 - 2) FINISH: NONE
 - 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
 - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
 - 5) BREAK ALL SHARP EDGES: 0.005 TO 0.010 MAX
 - 6) IDENTIFICATION: NONE
 - 7) WEIGHT: 0.27 lbs

DESIGN	MB	DART AEROSPACE LTD	
DRAWN	SC	HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. D
MFG. APPR.		D4148	SHEET 5 OF 5
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DE APPR.		FWD X-TUBE LUG ASSY	NTS
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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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